THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

Paper No. 25

UNITED STATES PATENT AND TRADEMARK OFFICE

_____

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

_____

Ex parte RAY M. JOHNSON

_____

Appeal No. 96-0776
Application 07/953,539[1]

_____

ON BRIEF

_____

Before ABRAMS, STAAB and CRAWFORD, Administrative Patent Judges.

ABRAMS, Administrative Patent Judge.

DECISION ON APPEAL

[1] Application for patent filed September 28, 1992.

This is an appeal from the decision of the examiner finally rejecting claims 1 through 17, which constitute all of the claims of record in the application.

The appellant's invention is directed to a waveguide seal assembly. The subject matter before us on appeal is illustrated by reference to claim 1, which reads as follows:

1. A waveguide seal assembly for sealing a waveguide joint wherein said waveguide joint is formed between two joined waveguide flanges having coupled waveguide openings, said waveguide seal assembly comprising

an inner conductive part sized and shaped to substantially mate with the coupled waveguide openings presented at the joined waveguide flanges so as to provide a continuous electrical path across the waveguide joint, said inner conductive part having a defined outer perimeter,

an outer part separable from said inner part, said outer part having a central opening which is complimentary in shape to the outer perimeter of said inner part, the central opening of said outer part being larger than the perimeter of said inner part such that, when said inner part is placed within said central opening, an intermediate gap separates said inner and outer parts, and

a gas sealing element sized to removably fit in the intermediate gap separating said inner and outer parts for providing a pressure seal at the waveguide joint when the waveguide seal assembly formed by the fitting together of said inner and outer parts and said gas sealing element is clamped between the waveguide flanges forming the waveguide joint.

THE REFERENCES

The references relied upon by the examiner to support the final rejection are:

Smith	2,955,857	Oct. 11, 1960
Booth	3,400,344	Sep. 3, 1968
Domnikov et al. (Domnikov)	4,932,673	June 12, 1990
Bellis (GB)	937,707	Sep. 25, 1963
Spinner (DT)	3,404,465	Jan. 9, 1986

THE REJECTIONS

Under 35 U.S.C. § 102(b):

(1) Claims 1, 2, 9 and 12 on the basis of Domnikov.

(2) Claims 1, 2, 5, 6, 8, 9 and 12 on the basis of Spinner.

Under 35 U.S.C. § 103:

(1) Claims 3 and 10 on the basis of Spinner in view of Bellis.

(2) Claims 4, 11 and 14 through 16 on the basis of Spinner in view of Booth.

(3) Claim 6 on the basis of Spinner in view of Smith.

(4) Claims 7 and 13 on the basis of Spinner in view of Booth and Domnikov.

(5) Claim 17 on the basis of Spinner in view of Booth and Bellis.

(6) Claims 1 through 5, 10 through 12 and 14 on the basis of Booth in view of Bellis.

(7) Claims 7, 13 and 15 through 17 on the basis of Booth in view of Bellis and Domnikov.

(8) Claims 6, 8 and 9 on the basis of Booth in view of Bellis and Smith.

The rejections are explained in the Examiner's Answer.

The opposing viewpoints of the appellant are set forth in the Brief.

OPINION

We shall consider the ten rejections posed by the examiner in the order in which they appear in the Answer. The first two are on the basis of anticipation, which is established only when a single prior art reference discloses, either expressly or under the principles of inherency, each and every element of the claimed invention (see *In re Paulsen*, 30 F.3d 1475, 1480-1481, 31 USPQ2d 1671, 1675 (Fed. Cir. 1994) and *In re Spada.*, 911 F.2d 705, 708, 15 USPQ2d 1655, 1657 (Fed. Cir. 1990)). Claims 1, 2, 9 and 12 stand rejected as being anticipated by Domnikov. These claims all are directed to a waveguide seal assembly comprising an inner conductive part, an outer part, and a gas sealing element located in a gap between the two other elements. Among the claim requirements is that the outer part be "separable" from the inner part, and the sealing element "removably" fit in the gap. The waveguide seal disclosed in Domnikov comprises the same three elements arranged in the same fashion, but they are secured

together by bonding the metal parts to the rubber sealing element (column 5, lines 34 through 38) to form "a one-piece gasket" (Abstract). It is the examiner's position, however, that the elements of the Domnikov seal "are capable of being separated or removed if enough force is applied," and thus meet the terms of the claims (Answer, paragraph bridging pages 8 and 9). We do not agree with this theory, which the examiner has not supported by citation to law, and by which, in the words of the appellant, "the very essence of the applicant's invention has effectively been read right out of the claims" (Brief, page 16). We therefore will not sustain this rejection.

The anticipation rejection based upon Spinner meets the same fate for the same reason, in that the three components of the Spinner waveguide seal are secured together by vulcanization (translation, page 2), and therefore are neither separable nor removable. This rejection of independent claims 1 and 12 and dependent claims 2, 5, 6, 8 and 9 is not sustained.

The remaining rejections are under 35 U.S.C. § 103. Here, the examiner bears the initial burden of presenting a *prima facie* case of obviousness (see *In re Rijckaert*, 9 F.3d 1531, 1532, 28

USPQ2d 1955, 1956 (Fed. Cir. 1993) and *In re Oetiker*, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992)), which is established when the teachings of the prior art itself would appear to have suggested the claimed subject matter to one of ordinary skill in the art (see *In re Bell*, 991 F.2d 781, 783, 26 USPQ2d 1529, 1531 (Fed. Cir. 1993) and *In re Rinehart*, 531 F.2d 1048, 1051, 189 USPQ 143, 147 (CCPA 1976)). This is not to say, however, that the claimed invention must expressly be suggested in any one or all of the references, rather, the test for obviousness is what the combined teachings of the references would have suggested to one of ordinary skill in the art (see *Cable Electric Products, Inc. v. Genmark, Inc.*, 770 F.2d 1015, 1025, 226 USPQ 881, 886-87 (Fed. Cir. 1985) and *In re Keller*, 642 F.2d 413, 425, 208 USPQ 871, 881 (CCPA 1981)).

Claims 3 and 10 stand rejected as being obvious over Spinner in view of Bellis. Claim 3 depends from claim 1, and therefore inherits the separable and removable features recited in claim 1. Claim 10 is an independent claim which also includes these two limitations. The Spinner reference has been discussed above. Bellis is cited for its teaching of placing an O-ring in a groove in the inner part of the seal "to provide a secure attachment"

(Answer, page 5). However, even assuming, *arguendo,* that Bellis is analogous prior art[2], it is our view that these two references fail to establish a *prima facie* case of obviousness with respect to the subject matter of claims 3 and 10 by virtue of the same shortcoming of Spinner pointed out in the foregoing rejections, that is, its failure to teach the separable and removable features. This rejection therefore is not sustained.

Claims 4, 11 and 14 through 16 have been rejected as being unpatentable over Spinner in view of Booth, the latter being cited for its teaching of making the inner part of the seal slightly thicker than the outer part. Claims 4 and 14 also require the separable and removable features for which the examiner vainly looks to Spinner, as we have explained above. A *prima facie* case of obviousness therefore is not established with regard to claims 4 and 14, and their rejection on these grounds is not sustained.

Independent claim 11 and its dependent claims 15 and 16 differ, however, in that claim 11 does not require that the outer part be "separable" from the inner part, but merely that the outer part be "separate." While we agree with the appellant that

[2] The appellant has argued on pages 10 through 14 of the Brief that Bellis is nonanalogous art.

Spinner's outer part is not "separable" from the other elements of the assembled seal, it nevertheless is a "separate" element, albeit connected to the other components, and "separate" does not proscribe all connection with another element (see *In re Ruegg*, 426 F.2d 405, 408, 165 USPQ 711, 714 (CCPA 1970)). Claim 11 does not require that the sealing element removably fit in the gap between the inner and outer parts.

Booth teaches making the inner part of a slightly greater thickness than the outer part, so that upon tightening of the flanges the electrical conductivity is improved (column 4, with particular attention to lines 29 through 31). It is our opinion that one of ordinary skill in the art would have found it obvious

to make inner part 10 of the Spinner sealing means of a slightly greater thickness than outer part 13, so that the electrical conduction through the joint is further enhanced. Booth also teaches making the inner part of a more conductive material than the outer part, to reduce cost (column 2, lines 38 through 54). It is our view that it therefore also would have been obvious to do the same with the Spinner device, as added by claim 15. Suggestion for both of these modifications is found in the explicit teachings of Booth. As for claim 16, from our

perspective the seal assemblies in both Spinner and Booth are of such size as to occupy "substantially" the entire region between the waveguide flanges.

A *prima facie* case of obviousness thus is established here, and the rejection of claims 11, 15 and 16 as being unpatentable over Spinner in view of Booth is sustained.

Claim 6, which depends from claim 1 and therefore includes all the limitations thereof, stands rejected as being unpatentable over Spinner in view of Smith. This rejection also will not be sustained because the Smith patent, cited for its teaching of knurling the surfaces of the seal, does not alleviate the shortcomings of Spinner regarding the separable and removable features

of claim 1, and thus a *prima facie* case of obviousness has not been established.

Spinner in view of Booth and Domnikov form the basis of the examiner's rejection of claims 7 and 13, both of which depend from claims requiring the separable and removable features. As explained above, neither Spinner nor Domnikov (here cited for teaching the use of aluminum in seals) provide these required

basic teachings. Booth was added for its disclosure of copper as a desired seal material, but it does not alleviate the shortcomings of the other two references. Thus, a *prima facie* case of obviousness has not been made, and we will not sustain this rejection.

Claim 17 is an independent claim which stands rejected on the basis of Spinner, Booth and Bellis. Among its requirements are the "separable" and "removable" limitations discussed above and, as was the case above, the teachings extracted from each reference for the combination proposed by the examiner fail to meet the terms of claim 17, for the same reasons. There is no *prima facie* case, and this rejection is not sustained.

Claims 1 through 5, 10 through 12 and 14 have been rejected as being unpatentable over Booth in view of Bellis, it being the examiner's position that it would have been obvious to relocate

the seal of Booth from its disclosed position in a groove in the outer part to a gap between the outer part and the inner part, in view of the teachings of Bellis. We initially note here that in the Booth seal there is no gap between the inner and the outer parts, much less sealing means located within that gap. It is our view that to modify the Booth construction in the manner

proposed by the examiner would necessitate a total redesign of the Booth invention, for which suggestion can be found only via impermissible hindsight. Again, the failure of the references to establish a *prima facie* case of obviousness necessitates that the rejection not be sustained.

As for the rejection of claims 7, 13 and 15 through 17, the addition of Domnikov to the combination of Booth and Bellis for the purpose of disclosing the use of aluminum in seals fails to overcome the basic problem which again is noted immediately above. There is no *prima facie* case of obviousness, and the rejection is not sustained.

Finally, claims 6, 8 and 9 stand rejected as being unpatentable over Booth in view of Bellis and Smith. These claims depend from claim 1, and therefore contain its limitations. This being the case, the problem pointed out above regarding the lack of suggestion to combine in the manner proposed by the examiner also

is applicable here. It is not cured by Smith, which is cited only for its teaching of utilizing knurling to promote electrical conduction in a sealing means. The lack of a *prima facie* case of obviousness causes us not to sustain this rejection.

Pursuant to our authority under 37 CFR 1.196(b), we make the following new rejection:

Claims 1, 2, 3, 5 and 10 are rejected under 35 U.S.C. § 102(b) as being anticipated by Bellis.

Anticipation by a prior art reference does not require either the inventive concept of the claimed subject matter or recognition of inherent properties that may be possessed by the reference (see *Verdegaal Brothers Inc. v. Union Oil Co. of California*, 814 F.2d 628, 633, 2 USPQ2d 1051, 1054 (Fed. Cir. 1987). Nor does it require that the reference teach what the applicant is claiming, but only that the claim on appeal "read on" something disclosed in the reference, *i.e.*, all limitations of the claim are found in the reference (see *Kalman v. Kimberly-Clark Corp.*, 713 F.2d 760, 772, 218 USPQ 781, 789 (Fed. Cir. 1983), *cert. denied*, 465 U.S. 1026 (1984)). It is only necessary that the reference include structure capable of performing the recited function in order to meet the functional limitations of the claim (see *In re Mott*, 557 F.2d 266, 269, 194 USPQ 305, 307 (CCPA 1977)). Thus, the question of whether a reference is analogous art is not an issue here.

Using the language of claim 1 as a guide, Bellis discloses a seal assembly for a joint between two joined flanges. The Bellis

seal assembly comprises an inner conductive part 11 sized and shaped to substantially mate with the coupled openings presented at the joined flanges, with the inner conductive part having a defined outer perimeter. The Bellis assembly further comprises an outer part 13 separable from the inner part and having a central opening that is complimentary in shape to the outer perimeter of the inner part and larger such that when the inner part is placed within the central opening an intermediate gap separates the parts, and a gas sealing element 12 sized to removably fit in the gap for providing a pressure seal at the joint when the parts and the sealing element are clamped between the flanges of the joint.

The Bellis seal assembly "concerns fluid seals and has a particular application to the sealing of substantially parallel surfaces, as for example, pipe flanges and the like" (page 1, lines 10 through 13). Its sealing element "forms a circum-ferential seal about the axis of the pipe and flanges" (page 1, lines 19 through 21). The Bellis reference does not mention waveguides. However, from our perspective, a waveguide is merely a pipe that contains fluid under pressure (or vacuum) through

which microwave energy also is passed, and which has flange joints which must be sealed against fluid loss (or entry). The construction of the Bellis seal assembly bears a striking resemblance to that of the appellant's invention, and we see no reason why it is not capable of being used in a waveguide joint. Although Bellis registers no explicit concern for providing a continuous electrical path across the joint, inner part 11 is described as being made of metal (page 2, line 15), and therefore the Bellis seal assembly is capable of performing this function and inherently would do so.

Bellis clearly discloses the O-ring required in claim 2, and the groove added by claim 3. The reference also conforms to the requirement in claim 5, in that inner part 11 is smaller than outer part 13 and, in our view, the inner part constitutes a "relatively small portion of the seal assembly" to the same extent as the appellant's inner part. The comments made above with regard to claim 1 apply also to the rejection of independent claim 10.

It therefore is our opinion that all of the structural limitations recited in claims 1, 2, 3, 5 and 10 read on the seal assembly disclosed by Bellis, and that the Bellis seal assembly

is capable of performing the functions stated in these claims in the environment recited in the preambles.

In the course of sustaining the examiner's rejection of certain of the claims, and in rendering the new rejection set forth immediately above, we have carefully considered all of the arguments presented by the appellant in the Brief. However, they have not persuaded us that these actions were in error. Our position with regard to each should be apparent from the foregoing discussions.

Summary:

The examiner's rejection of claims 11, 15 and 16 as being unpatentable over Spinner in view of Booth is sustained. All of the other rejections made by the examiner are not sustained.

Pursuant to 37 CFR 1.196(b), claims 1, 2, 3, 5 and 10 are newly rejected as being anticipated by Bellis.

The decision of the examiner is affirmed-in-part.

Any request for reconsideration or modification of this decision by the Board of Patent Appeals and Interferences based upon the same record must be filed within one month from the date hereof (37 CFR § 1.197).

With respect to the new rejection under 37 CFR § 1.196(b), should appellant elect the alternate option under that rule to prosecute further before the Primary Examiner by way of amendment or showing of facts, or both, not previously of record, a shortened statutory period for making such response is hereby set to expire two months from the date of this decision. In the event appellant elects this alternate option, in order to preserve the right to seek review under 35 U.S.C. §§ 141 or 145 with respect to the affirmed rejection, the effective date of the affirmance is deferred until conclusion of the prosecution before the examiner unless, as a mere incident to the limited prosecution, the affirmed rejection is overcome.

If the appellant elects prosecution before the examiner and this does not result in allowance of the application, abandonment or a second appeal, this case should be returned to us for final action on the affirmed rejection, including any timely request for reconsideration thereof.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

AFFIRMED-IN-PART
37 CFR § 1.196(b)

NEAL E. ABRAMS Administrative Patent Judge	)
LAWRENCE J. STAAB Administrative Patent Judge	) BOARD OF PATENT) APPEALS AND) INTERFERENCES
MURRIEL E. CRAWFORD Administrative Patent Judge	)

Donald L. Beeson
One Kaiser Plaza, Ste. 2360
Oakland, CA 94612